Lyme disease

Lyme disease is caused by a bacterium, *Borrelia burgdorferi* that is transmitted to a person through the bite of an infected deer tick *(Ixodes scapularis*). Symptoms of Lyme disease include the formation of a characteristic expanding rash (erythema migrans) at the site of a tick bite 3-30 days after exposure. This rash occurs in 80% of patients. Fever, headache, joint and muscle pains, and fatigue are also common during the first several weeks. Later features of Lyme disease can include arthritis in one or more joints (often the knee), Bell's palsy and other cranial nerve palsies, meningitis, and carditis (AV block). Lyme disease is rarely, if ever, fatal.

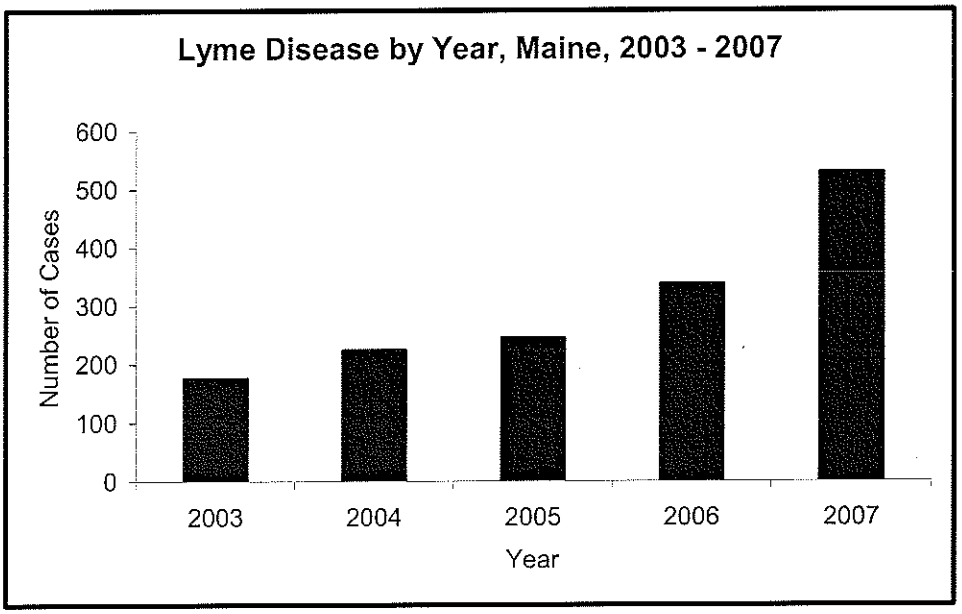
In the United States, highest rates of Lyme disease occur across the eastern seaboard (Maryland to Maine) and in the upper Midwest (northern Wisconsin and southern Minnesota), with the onset of most cases occurring during the summer months. In endemic areas, deer ticks are most abundant in wooded, grassy, and brushy areas ("tick habitat"), especially where deer populations are large.

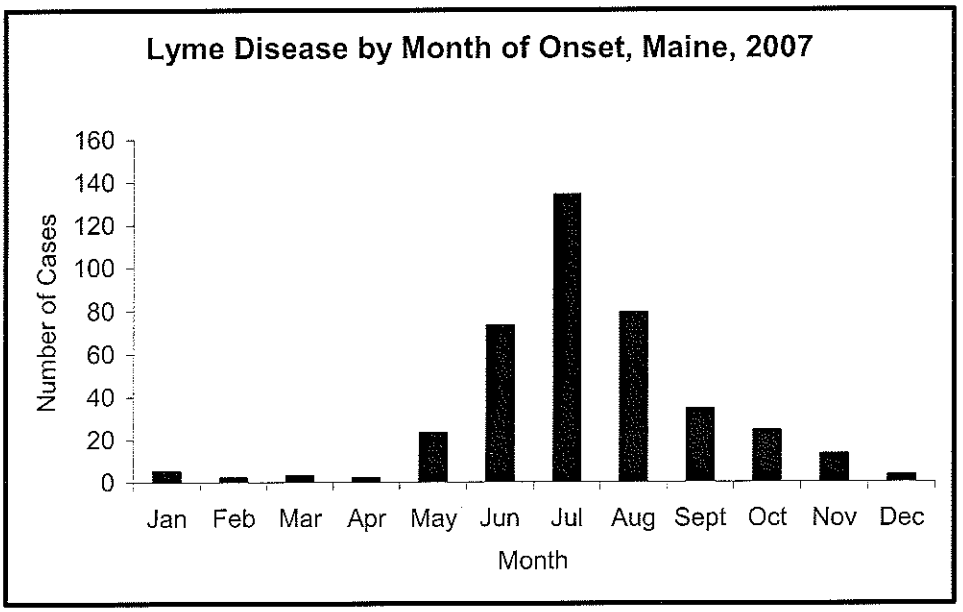
The first documented case of Maine-acquired Lyme disease in a state resident was diagnosed in 1986. Since 2003, when 175 cases were confirmed, the numbers of reported cases have increased each year, doubling between 2005 and 2007. During the 1990's the great majority of Lyme disease cases were residents of south coastal Maine, principally in York County. In recent years, however, disease incidence has increased steadily in the Midcoast, and in the Kennebec and Androscoggin river valleys.

In 2007, 529 cases of Lyme disease were confirmed among Maine residents. This is the greatest number of cases ever reported in Maine and represents a 57% increase over the 338 cases confirmed for 2006 and more than twice the number of cases that were reported for 2005 (245). The largest proportion of cases were reported among residents of York County (33%) and Cumberland County (31%), but the numbers of cases have increased in many areas, especially in the mid-coast, and in Kennebec and Androscoggin Counties.

Fifty four percent of cases were male and 46% were female. As has been true in Maine during previous years (and is also the case nationally) incidence was highest among school-age children (5-14 years) and middle age adults (40-65 years). Almost three-quarters (72%) of cases had onset during June, July, or August. Twenty-six persons (5% of all cases) were reported to have been hospitalized with Lyme disease. This is consistent with rates reported during previous years.

Currently, there is no human vaccine for Lyme disease. Personal protective measures include avoiding tick habitat, use of DEET-containing tick repellents, wearing long sleeves and pants, and daily tick checks and tick removal after being in tick habitat (ticks must be attached > 36 hours to transmit Lyme disease). Persons who have been in tick habitat should consult a medical provider if they have unexplained rashes, fever, or other unusual illnesses during the first several months after exposure. Possible community approaches to prevent Lyme disease include landscape management and control of deer herd populations.


Lyme Disease by Year, Maine, 2003 - 2007
Number of Cases
600
500
400
300
200
100
0
2003
2004
2005
2006
2007
Year


Lyme Disease by Month of Onset, Maine, 2007
Number of Cases
160
140
120
100
80
60
40
20
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec
Month